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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,484	05/31/2001	Hovhannes Ghukasyan	HPLA.003US0	8746

7590 01/27/2005

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EXAMINER
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LE, MIRANDA

ART UNIT	PAPER NUMBER
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2167

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

Applicant(s)

Examiner

Art Unit

Miranda Le

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/30/2004 has been entered.

2. This communication is responsive to Amendment A, filed 09/30/2004.

1. Claim 9 is pending in this application. Claim 9 is independent claims. In the Amendment, claims 1-8 have been cancelled, claim 9 has been added. This action is made non-Final.

### ***Claim Objections***

3. Claim 9 is objected to because of the following informalities: For purpose of consistency, "multidimensional" should be read as "multi-dimensional"; and, "one dimensional" should be read as "one-dimensional".

"each **dimensions** list" (page 6, line 1) should be changed to "each **dimension** list"

"a **closet** instance" (page 6, line 9) should be changed to "a **closest** instance"

Appropriate correction is required.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst et al. (US Patent No. 6,721,754), in view of Dekimpe et al. (US Patent No. 6,665,682).

**As per claim 9**, Hurst teaches a method for automatic generation of join graphs for relational database queries (col. 33, lines 33-67), comprising: receiving an input list that includes a plurality of tables for inclusion in said join graph, at least one attribute of interest wherein said attribute may be used for at least one function selected from the group consisting of output and filtering (col. 13, lines 3-43, col. 13, lines 51-65, col. 6, lines 1-5, col. 7, line 65 to col. 8, line 8);

determining whether each of said plurality of tables is a single instance (col. 5, lines 32-43, col. 15, line 11 to col. 16, line 14);

marking each of said plurality of tables determined to be single instance (i.e. the library or database join itself) and each table that is an ancestor of each of said plurality

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of tables determined to be single instance for inclusion in said join graph (col. 5, lines 44-66, col. 17, lines 18-24);

determining whether each of said plurality of tables is a multi-dimensional table wherein a multi-dimensional table is a table directly dependent from at least two other tables in said relational database (col. 5, lines 44-66, col. 11, lines 15-44);

inserting each of said plurality of tables determined to be a multi-dimensional table in a multi-dimensional table list (col. 5, lines 44-66, col. 11, lines 15-44);

determining whether each of said plurality of tables is a one-dimensional table wherein a one-dimensional table is a table directly dependent from one other table in said relational database (col. 5, lines 44-66, col. 11, lines 15-44);

inserting each of said plurality of tables determined to be a one-dimensional table in a one-dimensional table list (col. 5, lines 44-66, col. 11, lines 15-44);

marking an instance of each table in said multi-dimensional list closest to a marked table in a hierarchical representation of said relational database and each ancestor of said instance (col. 5, lines 44-66, col. 11, lines 15-44, col. 16, lines 3-59);

generating a dimensions list for each table in said multi-dimensional list including each reference table for a particular table (col. 5, lines 54-63);

determining whether each table in each dimensions list is included in said one-dimensional list (col. 5, lines 23-43);

marking each instance of each table in each dimensions list having a multi-dimensional table as a parent and removing said each table from said one-dimensional table list responsive to a determination that said each table is in said one-dimensional list

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(col. 9, line 59 to col. 10, line 27, col. 5, line 63 to col. 6, line 5, col. 13, lines 2-65, col. 18, lines 31-49, col. 7, line 61 to col. 8, line 8);

determining whether each table in said one-dimensional list is unmarked (col. 18, lines 7-20);

determining for each table in said one-dimensional list determined to be unmarked a closet instance to a marked table in said hierarchical representation of said relational database and each ancestor of said instance (col. 13, lines 2-65);

generating a join graph from said marked instances of tables in said hierarchical representation of said relational database and said at least one attribute (col. 5, lines 54-63).

Although Hurst teaches two dimensional representation of a multidimensional chemistry space, wherein a chemical similarity join can be used to help identify compounds that may be of interest to a user..., Hurst does not explicitly teach the terms “ancestor” and “a hierarchical representation”. However, DeKimpe teaches this limitation at col. 6, lines 45-52, col. 9, line 33 to col. 10, line 18.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references because DeKimpe’s teaching involves “anchor dimension” (i.e. one-dimension) and “non-anchor dimension” (i.e. multi-dimension) wherein dimensions offer a very concise, intuitive way of organizing and selecting data for retrieval, exploration and analysis (col. 6, lines 20-22, lines 45-52) would have allowed Hurst’s to minimize the complexity required to process database operations, to speed performance and to ensure correct results of the database operations.

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*Response to Arguments*

6. Applicant's arguments regarding claim 9 overcomes the art cited has been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

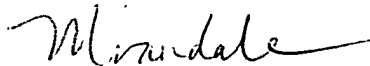
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

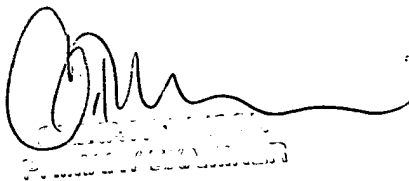
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (571) 272-4107. The fax number to this Art Unit is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Miranda Le  
January 21, 2005



John E. Breene  
Supervisor